

Historic, Archive Document

Do not assume content reflects current
scientific knowledge, policies, or practices.

Reserve
A423
R31

UNITED STATES
DEPARTMENT OF AGRICULTURE
LIBRARY



Reserve
BOOK NUMBER

A423
R31

³
CITRUS BLACKFLY AND MEXICAN FRUITFLY CONTROL //

We, on the Citrus Blackfly and Mexican Fruitfly Control Project, like to consider our work as primarily one of prevention of the spread of several insects which, if allowed to be introduced or become widespread in the United States, could cause serious injury to our fruit and fiber production.

The title of our Project is "Citrus Blackfly and Mexican Fruitfly Control". The citrus blackfly is widely distributed in Mexico but is not yet established in the United States. We are attempting to prevent its introduction into our citrus producing areas. The Mexican fruitfly is native to northeastern Mexico. It migrates annually into the citrus section of Texas and causes a general infestation there. Our job is to stop the further spread of this pest. Our third line of endeavor is to work in cooperation with the Mexican government in the states of Sonora and Baja California and forestall, if possible, the introduction into this part of northwest Mexico, and subsequently into Arizona and California, the cotton boll weevil, pink bollworm and, of course, the Mexican fruitfly and citrus blackfly.

The personnel of the Project works in two countries, does business in two languages and carries out its work not only by cooperating with the Mexican government, but also with local agricultural agencies and processors. So far the program has been a success. We feel we are doing a good job. Here's how we work.



Citrus Blackfly Surveys

The citrus blackfly, like many other citrus pests, is of Asiatic origin. It was introduced into the New World about 1913 and became established in islands of the Caribbean as well as on the Continent. It was discovered in the West Coast of Mexico in 1936. Its spread throughout the Republic, slowly at first, has been rapid the past few years and the damaging effects of its presence can be seen wherever it is established. Infestations have been found in all the major citrus producing areas in Mexico. No grove heavily infested with the citrus blackfly can be even remotely considered profitable unless expensive control operations are carried on. Fortunately, however, no infestations have yet been found in Texas, although on two occasions the blackfly was discovered in Matamoros, just across the Rio Grande from Brownsville, Texas, and from the Texas citrus producers viewpoint entirely too close for comfort.

Some of Mexico's finest citrus production is in the states of Tamaulipas and Nuevo Leon relatively close to Texas groves. In late 1949, the citrus blackfly was making rapid strides toward becoming generally distributed there. Texas citrus growers became greatly alarmed and asked for measures to be taken which would prevent the fly's natural spread to Texas. It was decided that the interest of American citrus producers could best be served by our Branch limiting its activities to making intensive surveys, while the Mexican government carried on the control program. Federal funds became available for the work late in 1949 and the survey work on a well organized basis was started early in 1950.

The citrus blackfly can be distributed through the transportation of infested foliage, infested nursery stock, and the adult fly in motor vehicles. As a result of these means of distribution general infestations were found to be



already established in dooryard plantings in many cities and towns of north-eastern Mexico, and light infestations in several citrus groves. Whenever an infestation is located the Mexican National Blackfly Committee promptly sprays all the citrus blackfly hosts. Excellent eradication results have been achieved. Unfortunately, however, due to the ease with which the citrus blackfly is carried by people, an infestation can be eradicated today and another established tomorrow. Consequently, in order to discover these new infestations, survey crews are constantly employed and inspections are made on a year-around basis throughout the citrus growing sections of northern Mexico. To implement this program our Branch provides all supervision, transportation, and pays the salaries of some of the scouts. The remaining personnel, totaling almost one hundred, are paid by the Mexican National Blackfly Committee. The program has been very successful. We have found the Mexican National Blackfly Committee an excellent cooperator. The Mexican inspector makes a good employee. Despite the fact that citrus blackfly is easily distributed, the program has been effective in preventing the introduction of this pest into our country.

In Mexico the citrus blackfly has caused untold damage to the citrus production of that country. It could be equally destructive here and if introduced into the United States the American citrus producers would have another pest with which to contend, and another extremely expensive insect control program to carry out. To eradicate or control a well established citrus blackfly infestation another tremendous cost would be added to producers' cost of production. This could amount to as much as \$25 to \$50 per acre, and if a general infestation were to become established over the entire citrus producing areas of the United States, the cost of control with insecticides could amount to many millions of dollars annually.

Here again, we believe the ounce of prevention is paying off with more than the usual pound of cure.

Mexican Fruitfly Control

The Mexican fruitfly has long been a problem to Mexican fruit growers and in 1927 the fly was discovered in the Lower Rio Grande Valley of Texas. This pest is a native of northeastern Mexico, where it feeds in a wild fruit of no economic importance. It also attacks a wide variety of fruits, including citrus, mangoes, peaches, pears, apples, pomegranates, etc. It not only menaces the fruit production in the Lower Rio Grande Valley but also the fruit culture in the United States wherever climatic factors would be favorable. The fly has been widely spread throughout Mexico primarily by the medium of shipping infested fruit. It becomes established in southern Texas each year through its habit of migrating northward from Mexico. There is no known way in which it can be kept out of Texas citrus groves. It simply flies in and infests citrus fruits, principally from January through June, but it can be and is being prevented from spreading to other fruit growing sections. This is our job.

The period of northward migration of the fly from Mexico can be detected through the inspection of traps in citrus groves. Several thousand are operated within the area and by examining the flies caught, reliable forecasts can be made when infested fruit will be found and fruit sterilization will be needed.

The actual prevention of spread of the Mexican fruitfly from southern Texas is accomplished through the requirement that all fruit harvested from infested zones be sterilized before shipment. The sterilization method was originally developed by the Bureau of Entomology and Plant Quarantine for use on the Mediterranean fruitfly campaign, but the process has been refined some-

what and further changes are in prospect. Sterilization is accomplished by placing the fruits in specially constructed rooms, where heated, moisture-laden air is forced through the room until the temperature of the fruit is raised to 110 degrees F. The entire process requires ten hours. The treatment does not injure the fruit, but it does kill Mexican fruitfly larvae. This process has been so successful that no infestations have been found outside the regulated area in Texas. A general infestation in the citrus producing areas of the United States, if allowed to inflict damage without any controls, would cost the producers millions of dollars annually. The cost of controls to producers alone, if a general infestation of the Mexican fruitfly were to become established over all the citrus producing area of the United States, would exceed \$20,000,000 annually. Here again, prevention of spread has paid off in a big way.

Cooperation with Mexico

For many years agriculture in the northwestern states of Sonora and Baja California in the Republic of Mexico was confined primarily to cattle raising. Within recent years, however, the opening up of large irrigation projects brought about extensive changes in agricultural practices and the general economy of the country. Some of these new agricultural areas in Mexico are just across the International Border from similar intensely cultivated sections in Arizona and California. Naturally, with the development of these areas came paved highways, improved rail facilities and construction of sea and airports. These facilities brought the formerly somewhat isolated section of northwestern Mexico into close connection with the remainder of the Republic, and likewise increased the probability of bringing in new and injurious insects. For instance, the cotton boll weevil is not known to be in northern Sonora and Baja California, just across the line from Arizona and California, but live

weevils are reported to have been found in freight cars just across the Border from Calexico; the pink bollworm was not found to be on the West Coast of Mexico, but last year one larvae was found by a gin trash crew operating in the state of Sinaloa. The Mexican fruitfly had not been previously reported in the citrus groves of Sonora, but infestations have recently been found by the Branch's survey crews as far north as Hermosillo, Sonora, and flies have been trapped just south of the International Border at Tijuana, Baja California, as well as larvae collected from infested fruit on the markets at Mexicali and Tijuana. From these discoveries it is evident that the need exists for constant vigilance if we are to keep some of the most productive sections of our country free from invasion by several of the most destructive pests on record.

Here again, the activities of the Branch in this program are primarily those of prevention. The operation of road stations; the inspection of all rail traffic and the fumigation of railway cars; the examination of all passenger baggage on railways, planes and ships, are all efforts to prevent the introduction of injurious insects into parts of Mexico where they could easily spread into the United States. Many interceptions at all points of inspection demonstrates the value of the program. We, who are on the job and responsible for carrying it out, believe that we are doing a worthwhile work that is paying off in dollars and cents to the American taxpayer.

50

Revised, June 1, 1954

By: N. O. Berry, Project Leader.



